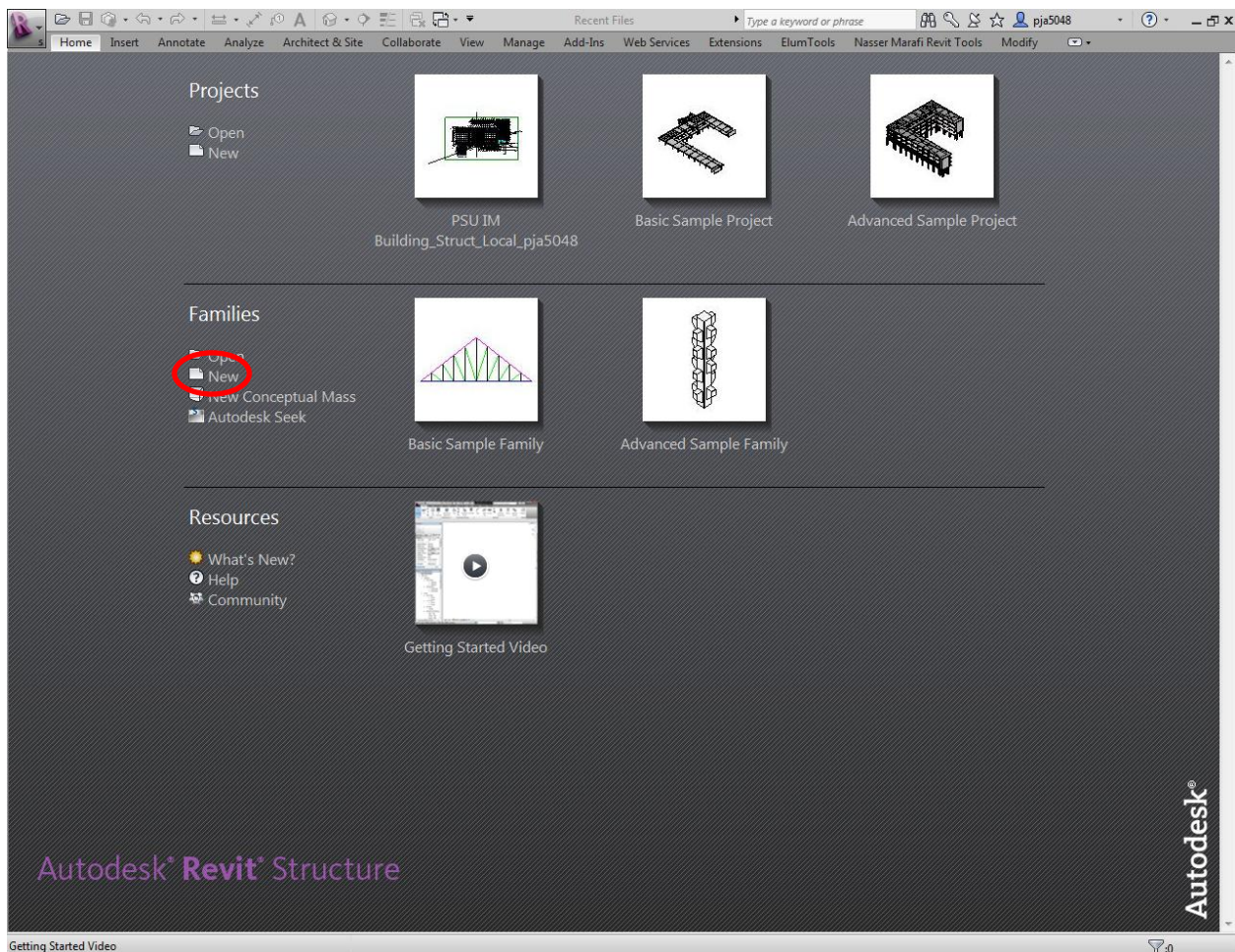


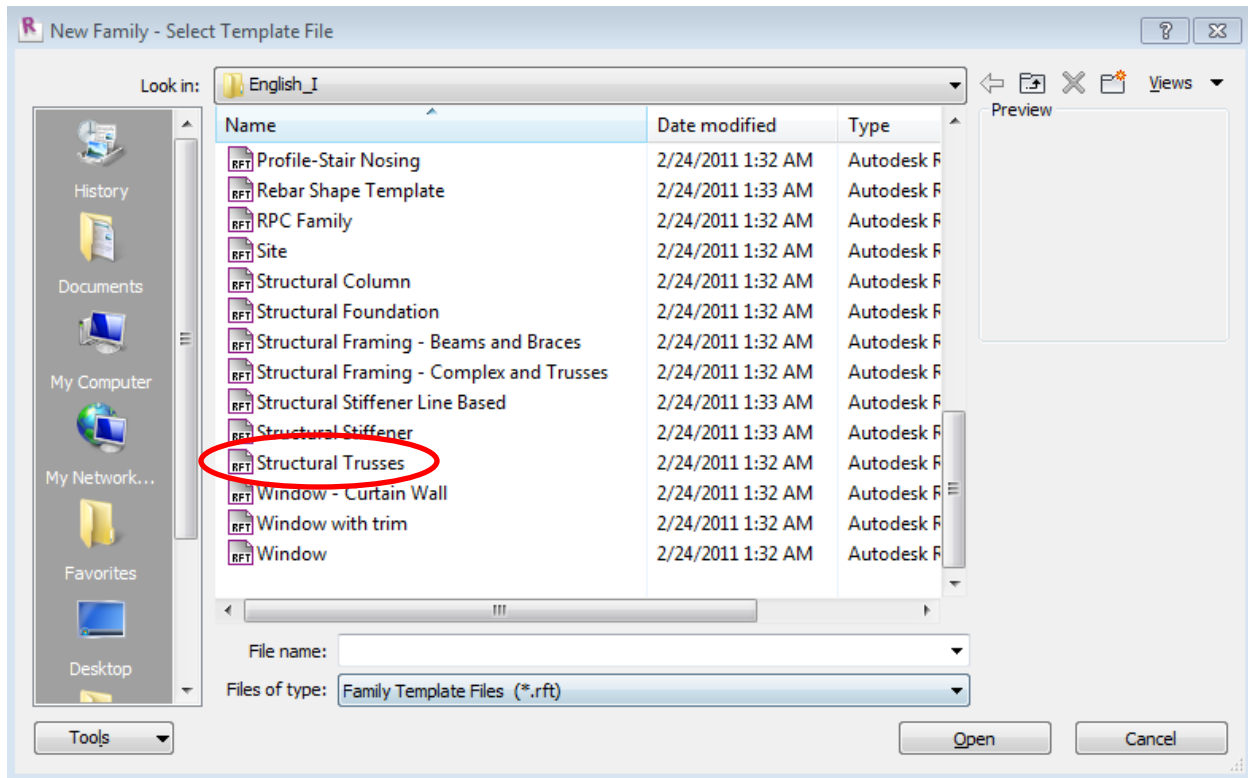
Introduction to Revit Structure Families

This BIMWiki is a brief introduction into creating families for Revit Structures. Creating a family is great if you have any kind of custom structural pieces in your building. The best way to familiarize yourself with creating a family is to just try out Revit Families but this will give you some good direction in getting started.

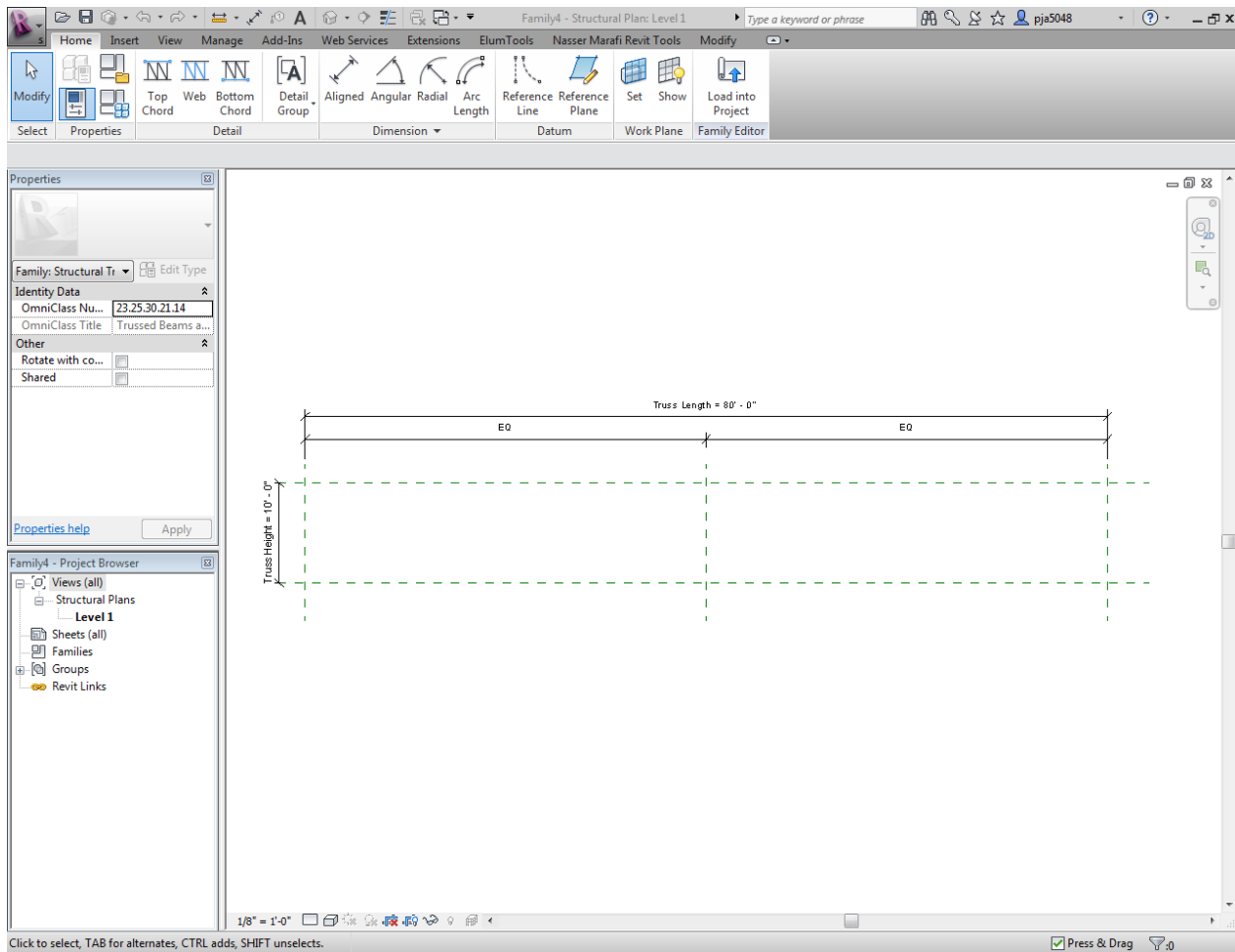
On the first screen after opening Revit Structure, select “New” under the “Families” section.



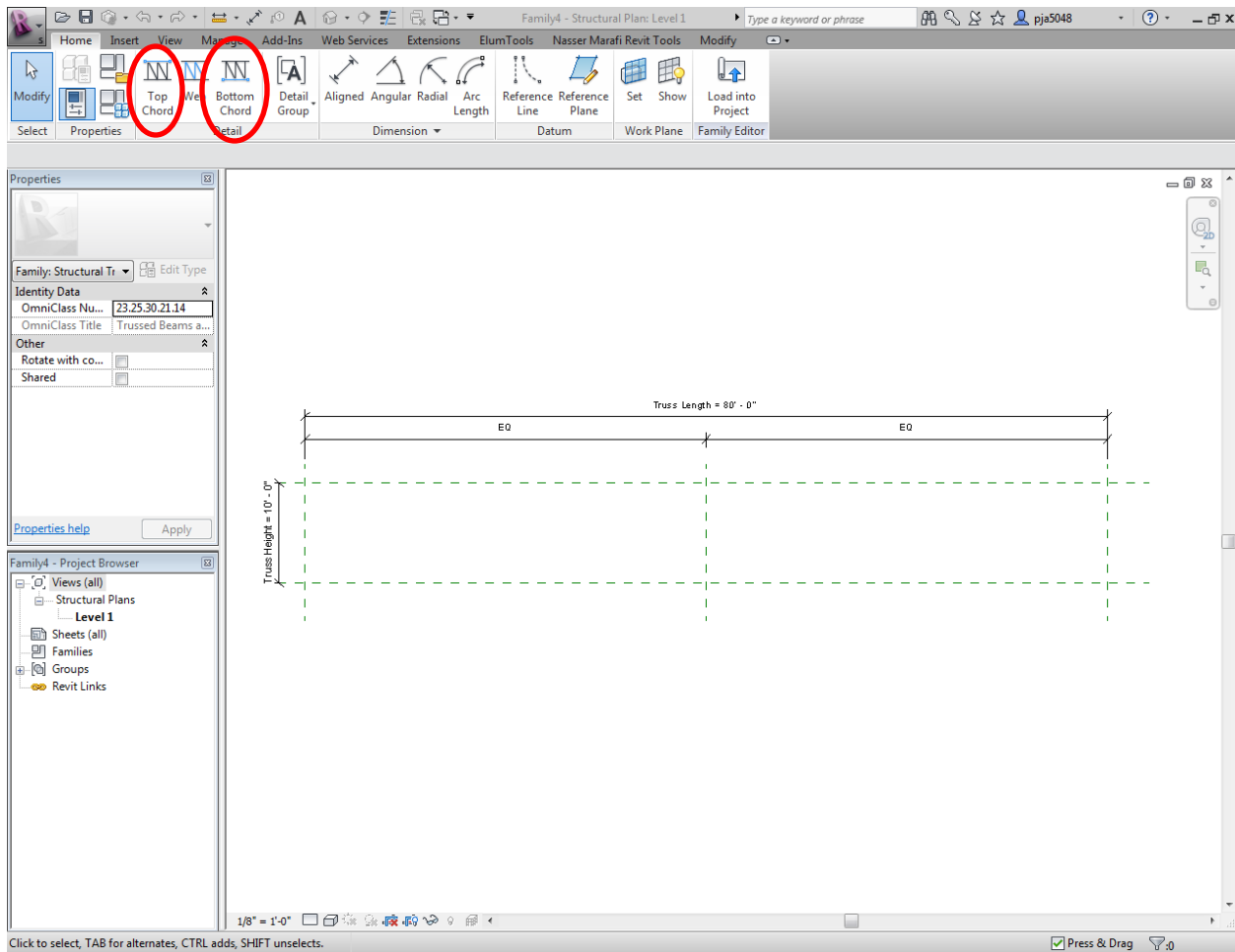
A screen will pop up for you to select a template file, scroll down to the end of the list where you will find several different structural templates, for this example I will show the “Structural Trusses.”



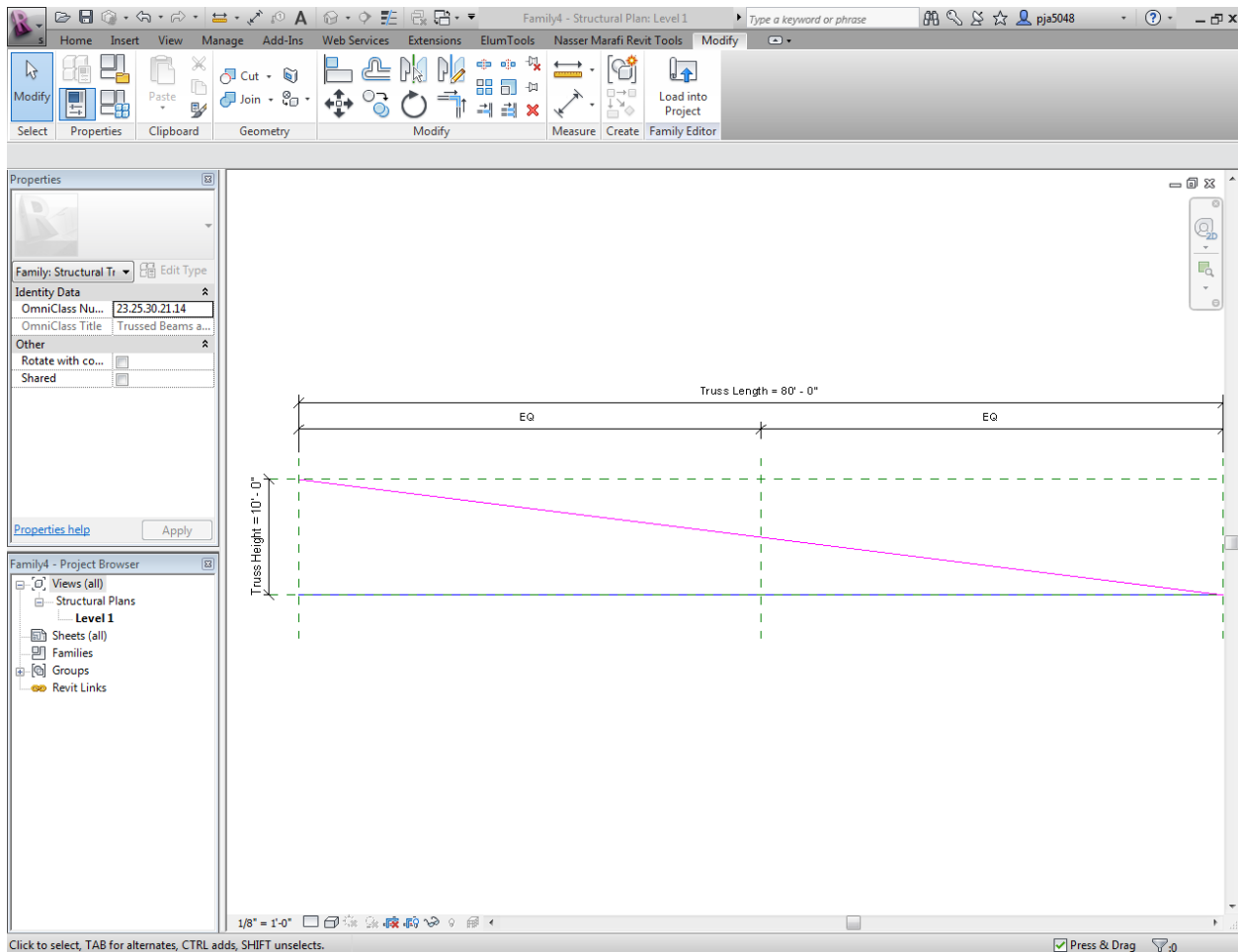
The beginning screen is set up so it is easy to create your truss. The green lines are the parameters of your truss such as the top, bottom, middle, left and right. When you put in your model lines, use these green lines to help you. The parameters shown are the truss height and truss length. The parameter lines are very powerful for creating trusses because they determine the lengths of your truss members when it's drawn.



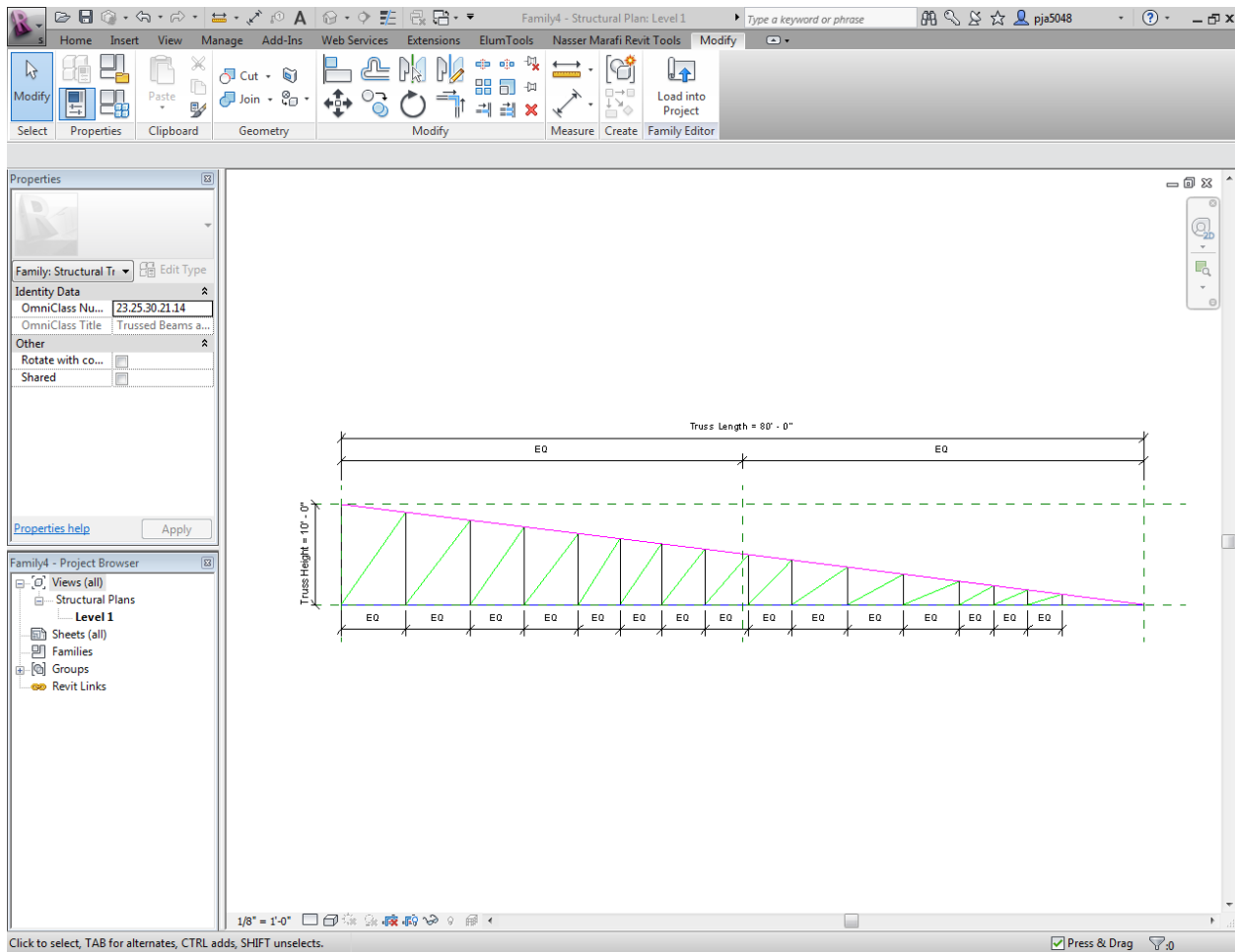
The truss height will always be the same, but the length depends on the length of the truss you place in a building, so all the members placed will be proportioned from how you draw the family. To demonstrate I will start by drawing the top and bottom chords, found on the “Home” tab.



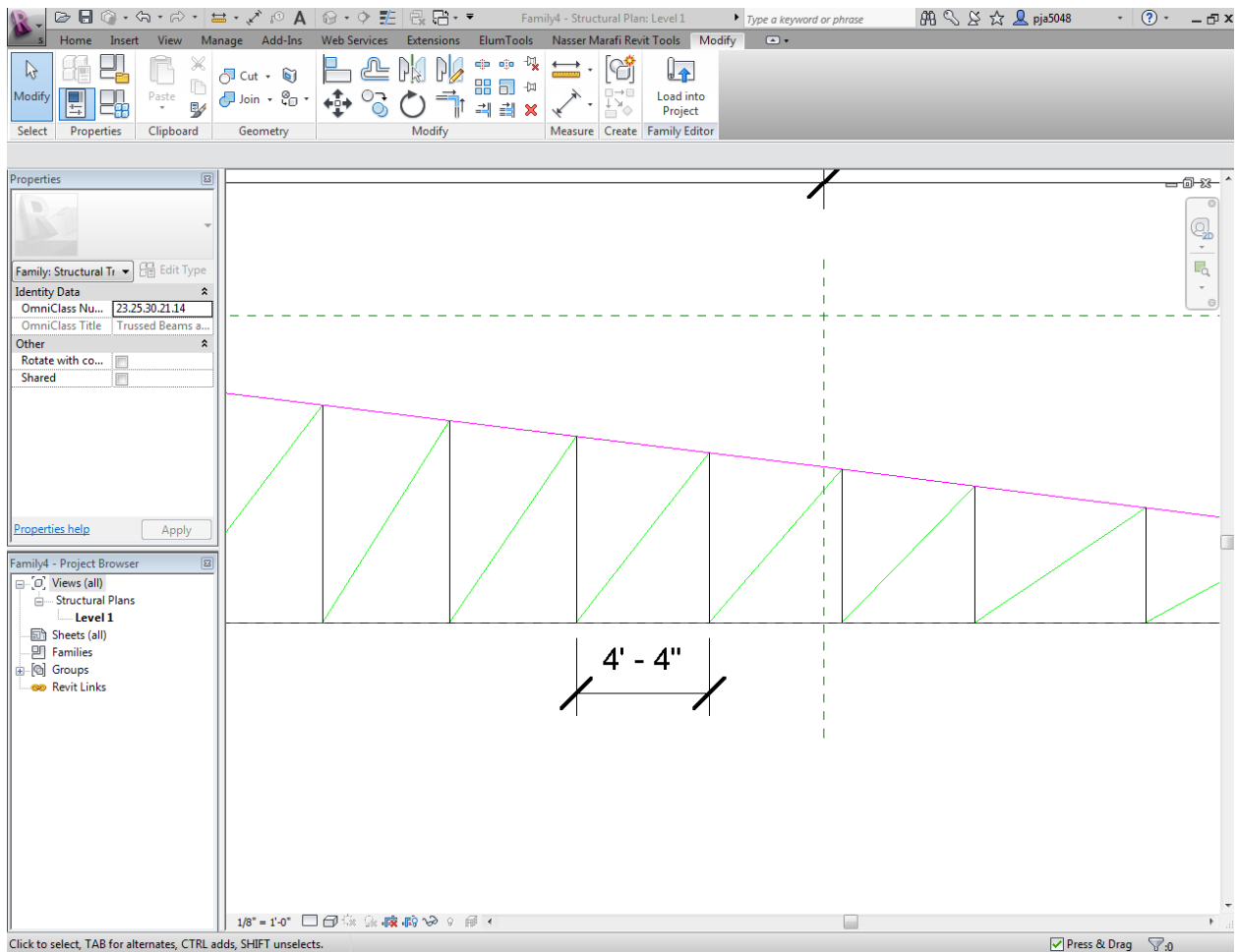
For this example I'll show a slanted top chord. By drawing the top chord like this, the slope of the top chord will change depending on how long you draw the truss in the model. That way the truss height will stay at 10'

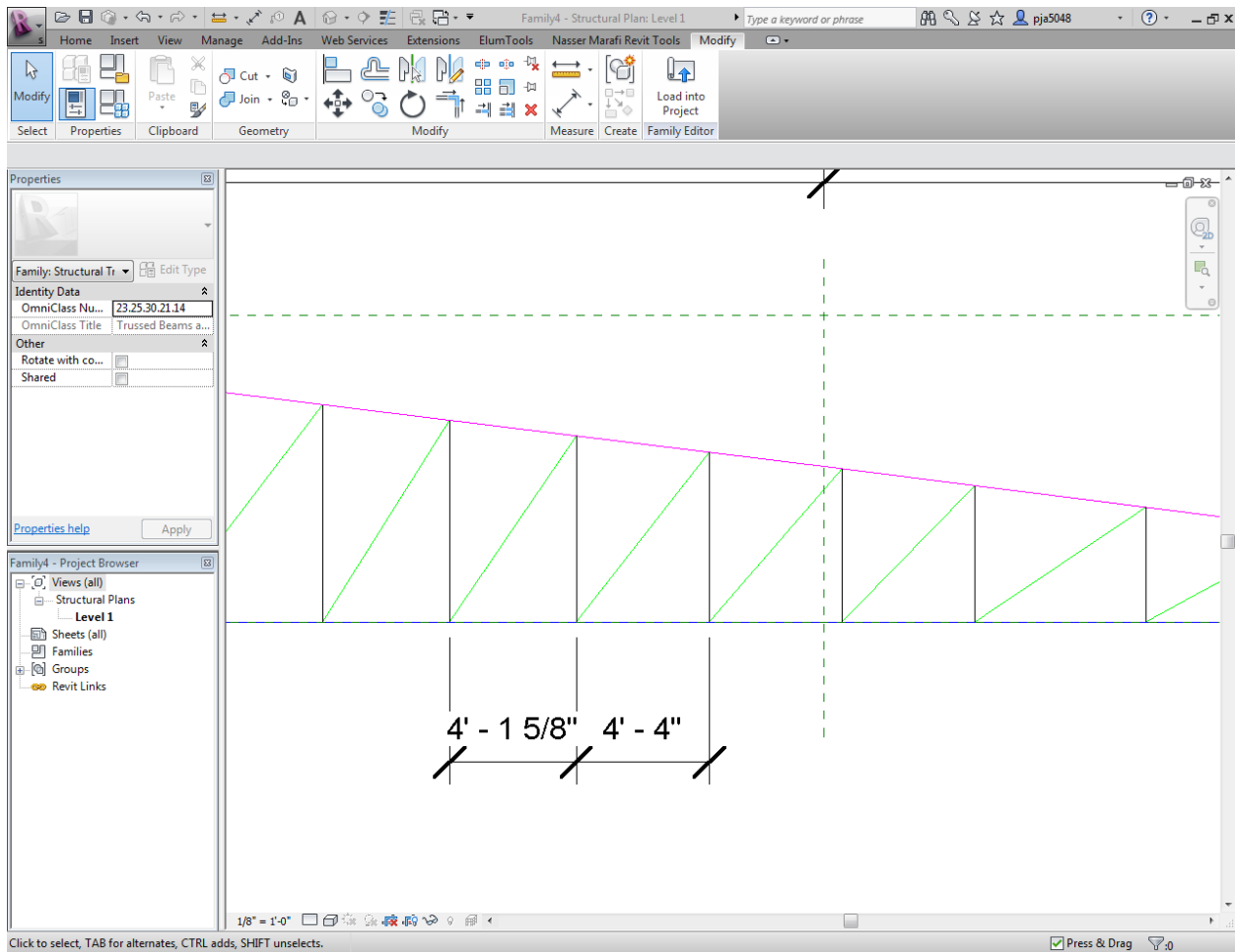


Now in putting in the web members, you will want to use parameters to control the placement of your web members. If you use the “EQ” (equal) parameter, the length will automatically be proportioned no matter how long you draw your truss. If you use an actual parameter like “6 feet” no matter how long you draw the truss in a model, that dimension will stay at 6 feet.

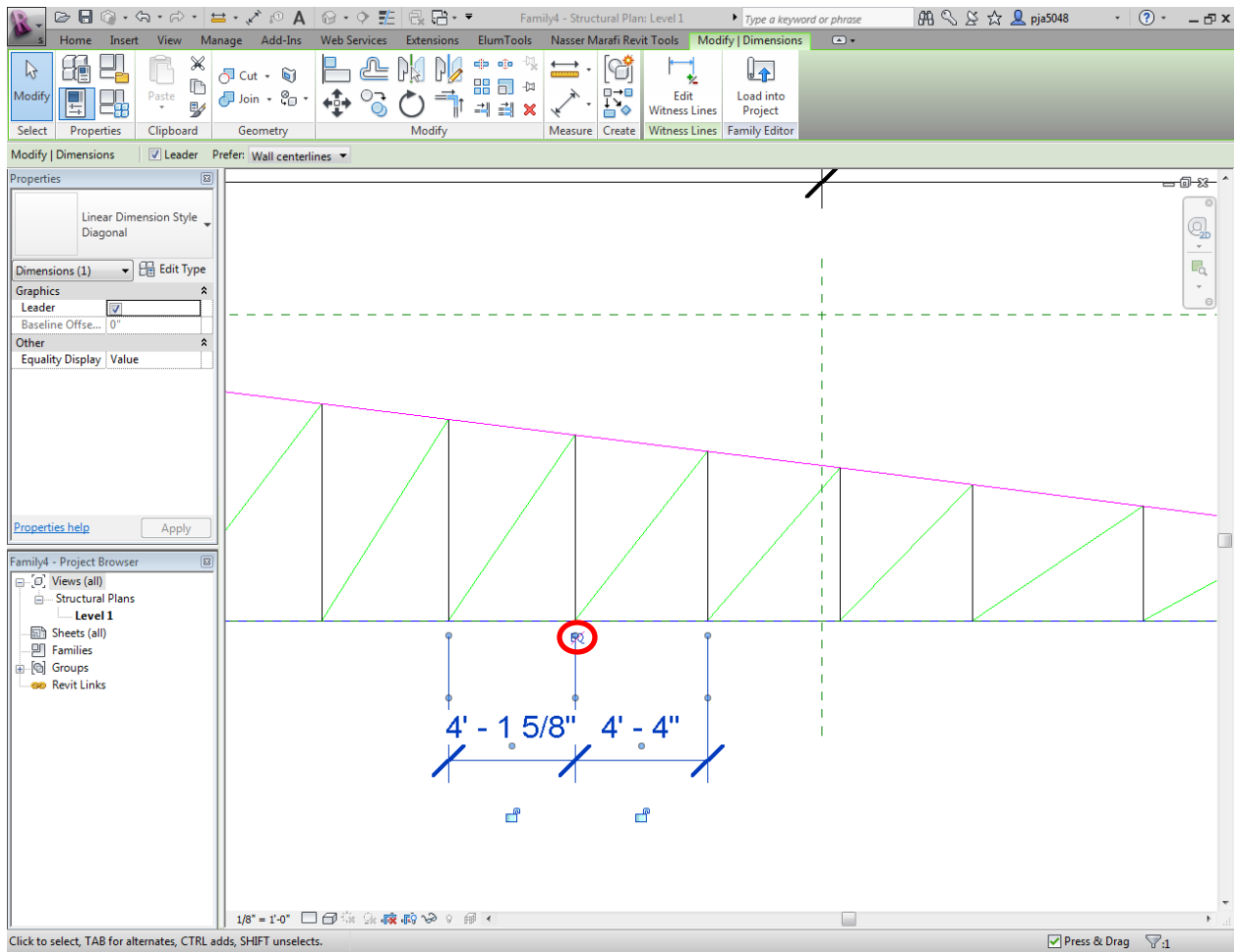


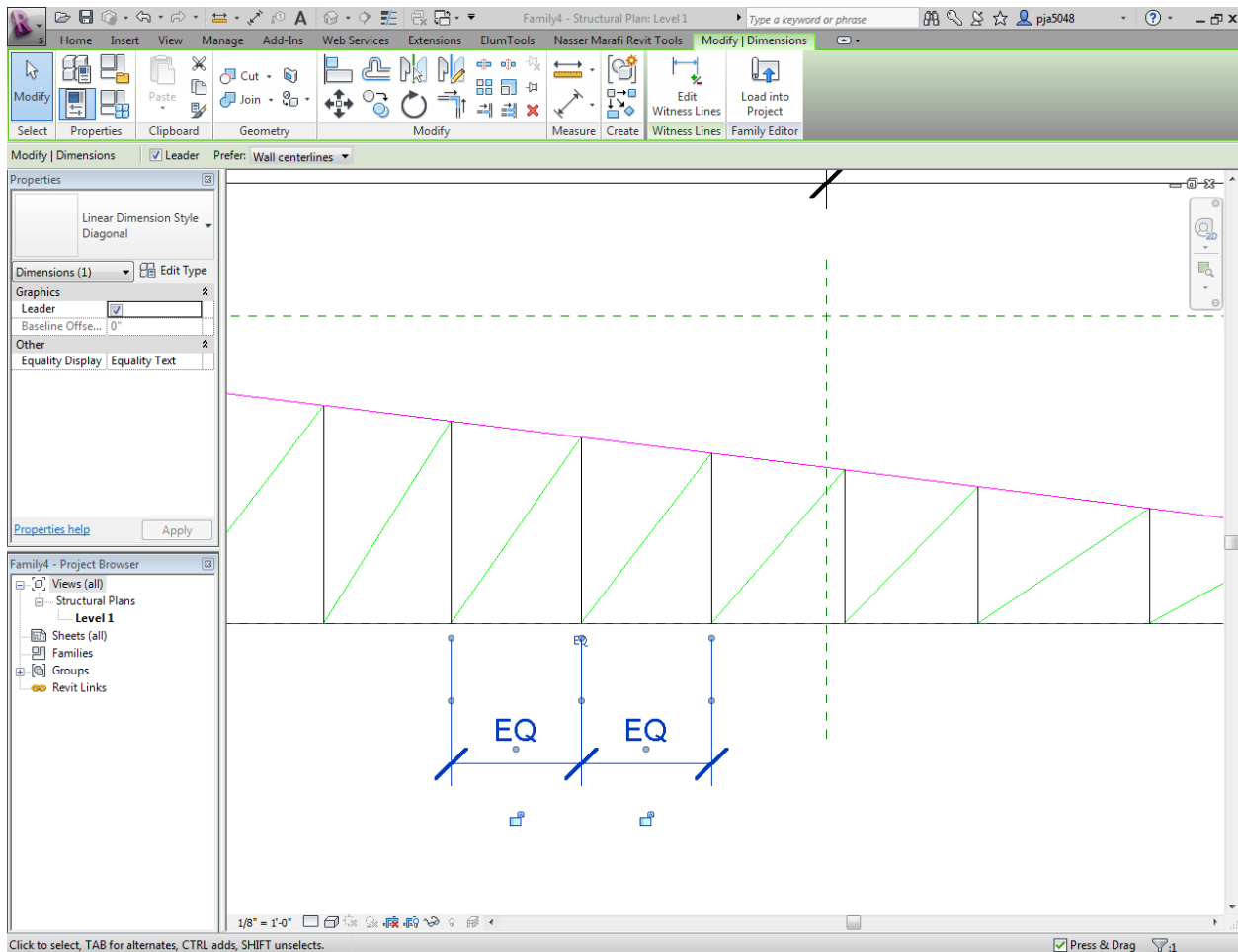
What you will do is “Aligned” under the Dimension section on the home tab, by clicking on two web members the dimension will show up, by clicking on one more adjacent member the dimensions will show for both of the lengths.





If you select the dimensions for both spans and have placed the dimension parameters, click on the parameters and an EQ with a red line through it will show up, click on it to make the dimensions equal.

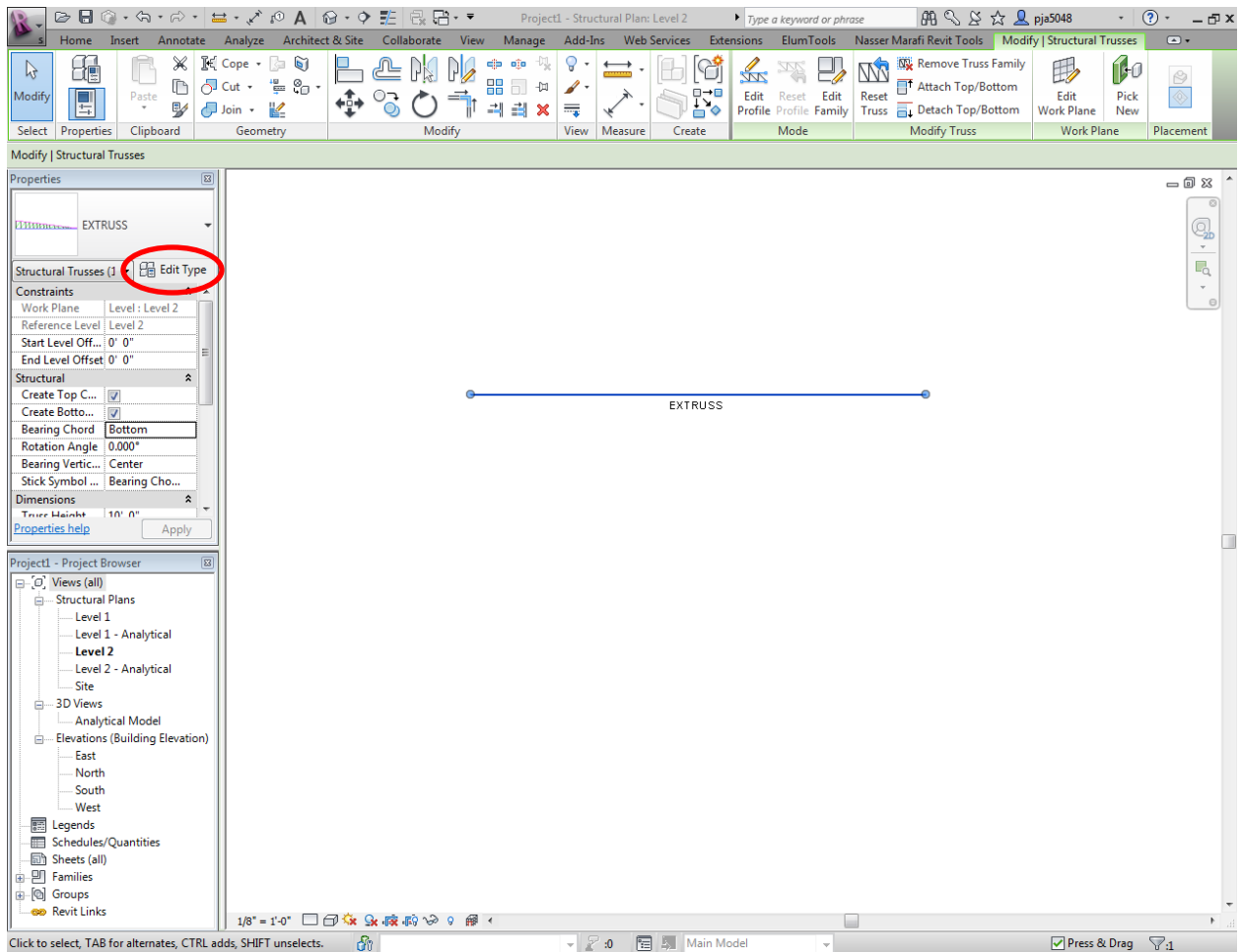




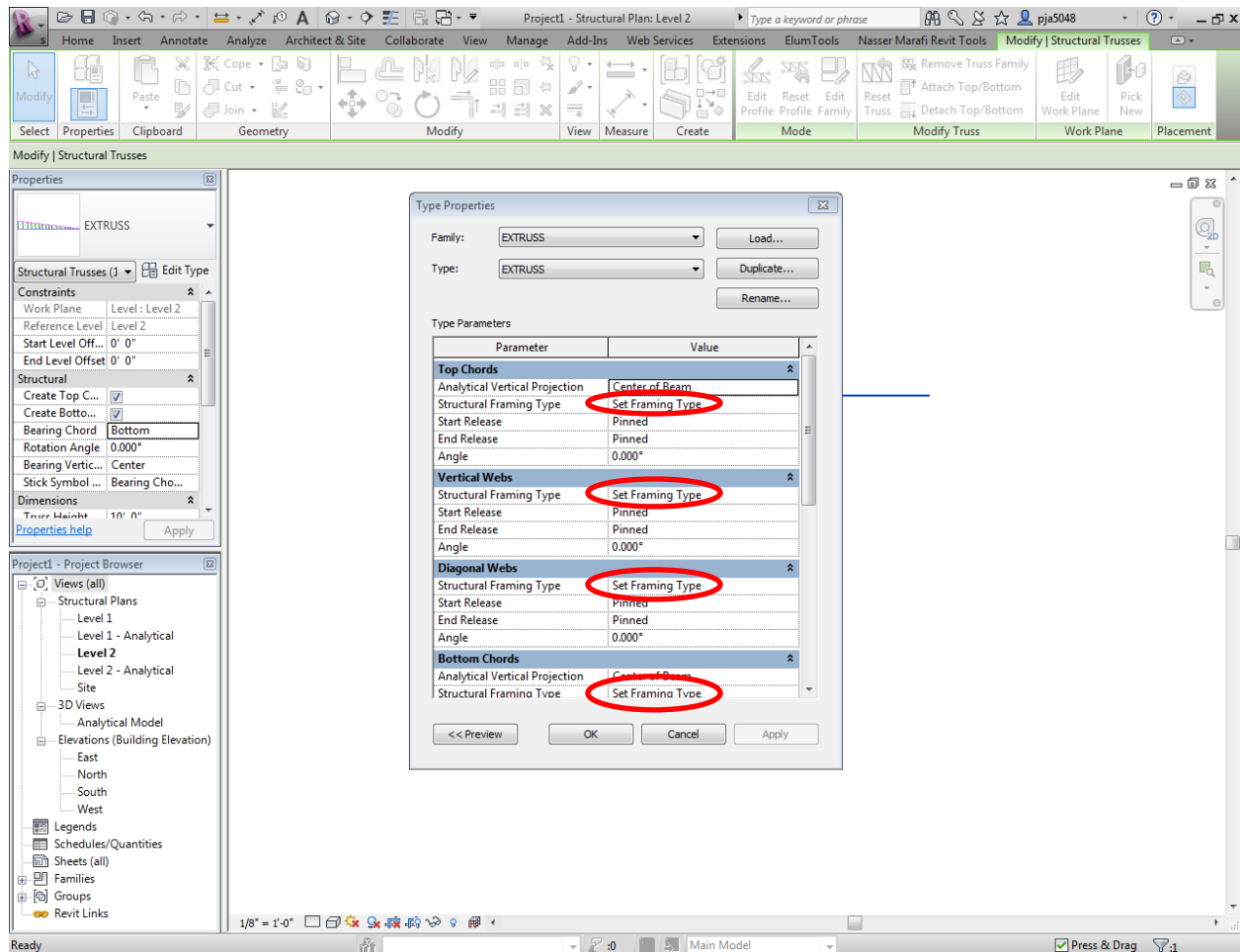
Now, whenever you place a truss the spans will proportion themselves to the total length of the truss and these two spans will be the same length.

This is the most important factor of doing families in Revit Structure. You need to use the EQ feature in the parameters so your family will stay proportioned no matter what size it is drawn.

Now, in order to assign a type of steel section to the top and bottom of your truss, you actually have to place a truss in a Revit Structure model. Select the truss and click “Edit Type” in the side bar. (Note: You will have to load your section into the Revit Model.



A window will pop up that will allow you to “Set Framing Type” for top and bottom chords and for the web members.



Again, this was an example for a truss but all other structural types work more or less the same. Remember, the best way to learn how to create families is to just try it out and toy around with it.